

LIBRARY OF VELOCITY DEPENDENT EXTENDED SPREAD-SPECTRUM CODES

ABSTRACT

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A method and apparatus is provided for determining a propagation time delay. The apparatus includes at least one source adapted to generate a plurality of positioning signals, at least one receiver deployed along a seismic sensing cable, wherein the receiver is adapted to receive the plurality of positioning signals from the at least one source, and a plurality of computed Doppler-shifted positioning signals corresponding to the plurality of positioning signals. The apparatus also includes a signal processing unit adapted to determine a propagation time delay between the source and the receiver using the generated positioning signals, the received positioning signals, and the plurality of computed Doppler shifted positioning signals.

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[Figure 2A]

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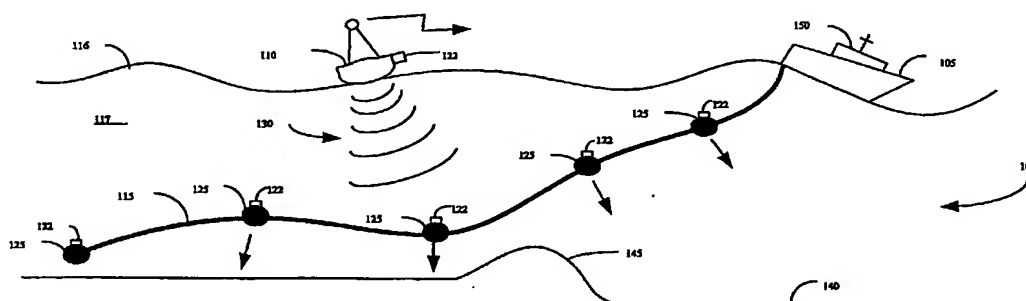
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(54) Title: **LIBRARY OF VELOCITY DEPENDENT EXTENDED SPREAD-SPECTRUM CODES**



(57) Abstract: A method and apparatus is provided for determining a propagation time delay. The apparatus includes at least one source (110) adapted to generate a plurality of positioning signals (130), at least one receiver (125) deployed along a seismic sensing cable (115), wherein the receiver (125) is adapted to receive the plurality of positioning signals (130) from the at least one source (110), and a plurality of computed Doppler-shifted positioning signals corresponding to the plurality of positioning signals (130). The apparatus also includes a signal processing unit adapted to determine a propagation time delay between the source (110) and the receiver (125) using the generated positioning signals (130), the received positioning signals, and the plurality of computed Doppler-shifted positioning signals.

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